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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,990	02/28/2008	David C. Nesting	US030214	1274

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

EXAMINER	
COUGHLIN, ANDREW J	

ART UNIT	PAPER NUMBER
2889	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/561,990	NESTING ET AL.	
	Examiner	Art Unit	
	ANDREW J. COUGHLIN	2889	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 October 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 February 2008* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *20051223*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

Applicant's claim to priority through document PCT/IB2004/051019 has been acknowledged.

Information Disclosure Statement

The references cited within the IDS document submitted on 12/23/2005 have been considered.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claims 1, Applicant recites the term "lead mercury" in the claim. The phrase is unclear to the examiner and is not discussed in the specification. For the purpose of examination, the examiner will treat the claim to read - - no more then 5 ppm of lead in the test leachate - -.

Claims 2 and 3 are dependent on claim 1 and are therefore also rejected.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Klinedinst et al. (US 6,169,362 B1) in view of Bollina R et al. (WO 02/099146 A1)

As to claim 1, Klinedinst et al. teaches an integrated CFL lamp (#10 in Fig. 1 and in col. 5 ln. 10) which comprises a means to reduce the amount of leachable mercury in the spent lamp (col. 3 ln. 53-56 and col. 6 ln. 14-15); said lamp, when subjected to TCLP standard tests in which a leachate is analyzed for mercury content, containing no more than 0.2 ppm mercury (col. 3 ln. 53-56). .Klinedinst et al. is silent about the lamp containing: a means to reduce the amount of leachable lead in the spent lamp and when subjected to TCLP standard tests in which a leachate is analyzed for lead content, containing no more than 5 ppm of lead in the test leachate.

However, Bollina R et al. teaches a lamp containing: a means to reduce the amount of leachable lead in the spent lamp (Page 1 ln. 4-6) and when subjected to TCLP standard tests in which a leachate is analyzed for lead content, containing no more than 5 ppm lead mercury in the test leachate (The solder taught by Bollina R et al. is free of lead). Bollina R et al. teaches the use of lead free solder in the use of many

different lighting applications (page 23 ln. 17-20) in order to be more environmentally friendly when recycled or placed in land fills (page 1 ln. 19-23). It would have been obvious to one of ordinary skill in the art to combine the lead free solder taught by Bollina R et al. into the device taught by Klinedinst et al. in order to produce a lamp that was more environmentally friendly.

Claims 2-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klinedinst et al. (US 6,169,362 B1) in view of Bollina R et al. (WO 02/099146 A1) and in further view of Maya et al. (US 5,541,477).

As to claim 2, Klinedinst et al. and Bollina R et al. combine to teach the entirety of claim 1. Additionally, Bollina R et al. teaches a lead-free solder (Page 1 ln. 4-6). Klinedinst et al. and Bollina R et al. are silent about the lamp containing any type of circuit board. However, Maya et al. teaches a circuit board (#16 in Fig. 1B and the entirety of Fig. 5 and in col. 6 ln. 12-38) Maya et al. teaches a circuit board in order to serve as ballast and protect the lamp (col. 6 ln. 17-20). It would have been obvious to one of ordinary skill in the art to supply a circuit board as taught by Maya et al. into the device taught by Klinedinst et al. and using the lead free solder taught by Bollina et al. in order to have a self ballasted lamp.

As to claim 3, Klinedinst et al., Bollina R et al. and Maya et al. combine to teach the entirety of claim 2. Additionally, Klinedinst et al. teaches a CFL lamp wherein said means to reduce the leachable mercury is a burner dosed with either elemental mercury or an amalgam, at an initial level relative to the volume of the discharge space of

between about 0.02 and about 0.2 .mu.g/cm.sup.3 or a burner dosed with mercury and containing additives to reduce the amount of leachable mercury in the spent lamp (col. 6 ln. 12-16).

As to claim 4, Klinedinst et al. teaches a lighting unit which comprises: at least one low-pressure mercury discharge lamp (#10 in Fig. 2 and in col. 5 ln. 10) having at least one light-transmitting discharge vessel (#12 in Fig. 2 and in col. 5 ln. 12) which is provided with a luminescent layer on an inner surface (#42 in Fig. 2 and in col. 5 ln. 27) and which encloses a discharge space provided with a gas fill energizeable to a discharge state (col. 5 ln. 13-14) and mercury (col. 5 ln. 30-32) in amounts effective to render the lamp TCLP compliant as to mercury (col. 3 ln. 53-56); a housing base on which said lamp is mounted, having a base portion connected to a cap portion (Fig. 2 and col. 5 ln. 10-29); and means to reduce the amount of leachable of mercury in the spent lamp to an amount sufficient to render the lamp TCLP-compliant concerning mercury (col. 3 ln. 53-56 and col. 6 ln. 14-15). Klinedinst et al. is silent about a ballast circuit arrangement and a means to reduce the amount of leachable of lead in the spent lamp to an amount sufficient to render the lamp TCLP-compliant concerning lead.

However, Bollina R et al. teaches a lamp containing: a means to reduce the amount of leachable lead in the spent lamp (page 1 ln. 4-6). The solder taught by Bollina R et al. is free of lead. Bollina R et al. teaches the use of lead free solder in the use of many different lighting applications (page 23 ln. 17-20) in order to be more environmentally friendly when recycled or placed in land fills (page 1 ln. 19-23).

It would have been obvious to one of ordinary skill in the art to combine the lead free solder taught by Bollina R et al. into the device taught by Klinedinst et al. in order to produce a lamp that was more environmentally friendly.

Further, Maya et al. teaches a ballast circuit arrangement disposed within the housing and located at least partially on a circuit board which is effective to energize said gas fill to such discharge state (#16 in Fig. 1B and the entirety of Fig. 5 and in col. 6 ln. 12-38). Maya et al. teaches a circuit board in order to serve as ballast and protect the lamp (col. 6 ln. 17-20). It would have been obvious to one of ordinary skill in the art to supply a circuit board as taught by Maya et al. into the device taught by Klinedinst et al. and using the lead free solder taught by Bollina et al. in order to have a self ballasted lamp.

As to claim 5, Klinedinst et al., Bollina R et al. and Maya et al. combine to teach the entirety of claim 4. Additionally, Klinedinst et al. teaches a CFL lamp wherein said base is formed in a way suitable for mechanical and electrical connection to a lamp socket (Connected through contacts #34 and #36 in Fig. 2).

As to claim 6, Klinedinst et al., Bollina R et al. and Maya et al. combine to teach the entirety of claim 5. Additionally, Bollina R et al. teaches the means by which the amount of leachable lead in the lamp is reduced is the use of a lead-free solder at least in the construction of the printed circuit board. Bollina R et al. teaches the use of lead free solder throughout the entirety of the lamps in order to replace areas normally soldered by lead solder (page 1 ln. 4-6, and page 23 ln. 17-20). It would have been obvious to one of ordinary skill in the art at the time the invention occurred to replace

the solder on the circuit board with lead free solder taught by Bollina R et al. in order to be more environmentally friendly.

As to claim 7, Klinedinst et al., Bollina R et al. and Maya et al. combine to teach the entirety of claim 5. Additionally, Bollina R et al. teaches the means by which the amount of leachable lead in the lamp is reduced is the use of a lead-free solder in the construction of (a) the circuit board or (b) the circuit board and a base portion of the lamp. Bollina R et al. teaches the use of lead free solder throughout the entirety of the lamps in order to replace areas normally soldered by lead solder (page 1 ln. 4-6, and page 23 ln. 17-20). It would have been obvious to one of ordinary skill in the art at the time the invention occurred to replace the solder on the circuit board with lead free solder taught by Bollina R et al. in order to be more environmentally friendly.

Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klinedinst et al. (US 6,169,362 B1), Bollina R et al. (WO 02/099146 A1) and Maya et al. (US 5,541,477) as applied to claims 5-7 above, and further in view of Sakakibara (US 6,552,489 B2).

As to claims 8-10, Klinedinst et al., Bollina R et al. and Maya et al. combine to teach the entirety of claims 5-7. Klinedinst et al., Bollina R et al. and Maya et al. are silent about the volume included by an envelope of the lamp. They can therefore not teach an initial concentration of mercury dosed into the lamp. However, a small amount of leachable mercury is desired in order to make the lamp TCLP compliant as taught by Klinedinst et al. This amount of mercury is taught by Sakakibara in col. 2 ln. 3-6). It

would have been obvious to one of ordinary skill in the art to supply an amount of mercury that falls between .2 mg/cm^3 and .02 mg/cm^3 as taught by Sakakibara into the already TCLP compliant lamp taught by Klinedinst et al and Bollina R et al. in order to produce a lamp that complies with TCLP standards.

Claims 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maya et al. (US 5,541,477) in view of Klinedinst et al. (US 6,169,362 B1) and further in view of Bollina R et al. (WO 02/099146 A1).

As to claim 11, Maya et al. teaches an integrated compact fluorescent lamp (#10 in Fig. 1A and in col. 5 ln. 10) which comprises: a cover having a base (#18 in Fig. 1A and in col. 4 ln. 3), multiple low-pressure mercury discharge vessels (12A-D in Fig. 1A-B and in col. 3 ln. 55), said discharge vessels being connected to one another to form a discharge path (col. 2 ln. 62-64), a lighting circuit contained in the cover and containing a printed circuit board extending at right angles to the longitudinal axis of the lamp (#16 in Fig. 1B and in col. ln. and col. 6 ln. 34-38) , said printed circuit board containing conductive tracks and a plurality of circuit elements that form an operating circuit for the lamp (Fig. 5 and col. 6 ln. 12-37), Maya et al. is silent about the lamp comprising an outer bulb and meeting any type of TCLP standards which includes using lead free solder in the circuit board.

However, Klinedinst et al. teaches a lamp wherein said lamp, when subjected to TCLP standard tests in which a leachate is analyzed for mercury content in the spent

lamp, contains no more than 0.2 ppm mercury in the leachate (col. 3 ln. 53-56 and col. 6 ln. 14-15).

Further, Bollina R et al. teaches a lamp, wherein said lamp, when subjected to TCLP standard tests in which a leachate is analyzed for lead content in the spent lamp, contains no more than 5 ppm lead in the leachate (Page 1 ln. 4-6). The solder used by Bollina R et al. is free of Lead and therefore contains less then 5 ppm in the leachate test. Additionally, Bollina R et al. teaches the use of an outer bulb containing a mercury discharge vessel (#3 in Fig. 1 and on page 23 ln. 25). It would have been obvious to one of ordinary skill in the art to supply the outer bulb taught by Bollina R et al. onto the device taught by Maya et al. in order to further protect the discharge vessels.

Additionally, It would have been obvious to one of ordinary skill in the art to combine the mercury content taught by Klinedinst et al. with the lead free solder taught by Bollina R et al. together and within the lamp taught by Maya et al. in order make a lamp which is more environmentally friendly when disposed of.

As to claim 12, Maya et al., Klinedinst et al. and Bollina R et al. combine to teach the entirety of claim 11. Additionally, Maya et al. teaches a CFL wherein the discharge vessel is provided with a luminescent layer on an inner surface thereof (col. 1 ln. 22-23).

As to claim 13, Maya et al., Klinedinst et al. and Bollina R et al. combine to teach the entirety of claim 11. Additionally, Maya et al. teaches a CFL wherein the discharge vessel encloses a discharge space that is provided with a filling of mercury and argon in a gastight manner (col. 1 ln. 25-27).

As to claim 14, Maya et al., Klinedinst et al. and Bollina R et al. combine to teach the entirety of claim 12. Additionally, Maya et al. teaches a CFL wherein the inner surface of the discharge vessel is also provided with a mercury-protective layer and a phosphor coating disposed over the mercury-protective layer (col. 2 ln. 47-51).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANDREW J. COUGHLIN whose telephone number is (571)270-7813. The examiner can normally be reached on Monday through Friday during normal business hours of 7:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TOAN TON can be reached on (571)272-2303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Karabi Guharay/
Primary Examiner, Art Unit 2889

/AJC/